

Amendments to the Drawings:

The attached drawing sheet includes changes to Figure 2. In Figure 2, an oval has been placed around the grooves and pins 130 to identify the grooves and pins 130 with more clarity.

REMARKS

Applicant respectfully requests reconsideration of this application in view of the following remarks. For the Examiner's convenience and reference, Applicant's remarks are presented in substantially the same order in which the corresponding issues were raised in the Office action.

Status of the Claims

Claims 1-6, 8, 9, 11, and 12 are pending. Claims 1 and 8 have been amended to more clearly define pre-existing claim limitations. Claims 5-7 have been canceled. No claims have been added. No new matter has been added.

Summary of the Office Action

Claims 7-8 stand rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which Applicant regards as his invention.

Claims 1-9 and 11-12 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 5,993,150 to Liotta et al. (hereinafter "Liotta") in view of Applicant's Prior Art (hereinafter "APA").

Response to Objections

Claim 6 stands objected to because of informalities. In particular, the Office action states that claim 6 is non-idiomatic. Applicant respectfully submits that claim 6 has been amended to change "further comprising" in claim 6 to "wherein," as suggested by the Examiner. Applicant respectfully submits that claim 6 has been canceled, and respectfully requests that the objection to claim 6 be withdrawn.

The drawings stand objected to because the drawings must show every feature of the invention specified in the claims. In particular, the Office action states that the Replacement Sheet of Drawings for Figure 2, still do not show the grooves and pins recited in claim 8 with clarity. Applicant respectfully submits that Figure 2 has been amended to include reference numbers with more clarity. Applicant respectfully requests that the objection to the drawings be withdrawn.

Response to Rejections under 35 U.S.C. § 112, second paragraph

The Office action rejected claims 7 and 8 under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which Applicant regards as his invention. Applicant respectfully submits that claims 7 has been canceled, and claim 8 has been amended to correct antecedent basis for the support device. Accordingly, Applicant respectfully requests that the rejections of claims 7 and 8 under 7 and 8 under 35 U.S.C. § 112, second paragraph, be withdrawn.

Response to Rejections under 35 U.S.C. § 103(a)

The Office action rejected claims 1-9 and 11-2 under 35 U.S.C. § 103(a) as being unpatentable Liotta in view of APA. Applicant respectfully requests withdrawal of these rejections because the combination of cited references fails to teach or suggest all of the limitations of the claims.

CLAIMS 1-4, 8, 9, 11, AND 12

Claim 1 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over Liotta in view of APA. Applicant respectfully submits that claim 1 is patentable over the combination of cited references because the combination does not teach or suggest all of the limitations of the claim. Claim 1, as amended, recites:

An assembly, comprising:

an internal casing and a support device for nozzles in a gas turbine stage, said nozzles being grouped together in sectors and each of said sectors being connected externally to an external casing of said gas turbine by means of said support device, said support device being kept in position by said internal casing, there also being formed first cooling holes on said internal casing and second cooling holes on said support device, wherein said first cooling holes of said internal casing have an extension substantially parallel to the axis of said gas turbine, **wherein said first holes are arranged circumferentially** and are forty-two in number, wherein the assembly further comprises **an anti-rotational pin located substantially at the front of said support device, and** wherein said support device comprises **a contact surface at the back side of the said support device that supports an axial thrust between the internal casing and said support device instead of the anti-rotation.** (Emphasis added).

To establish *prima facie* obviousness of a claimed invention, all the claim limitations must be taught or suggested by the prior art. *In re Royka*, 490 F.2d 981, 180, USPQ 580 (CCPA 1974). (Manual of Patent Examining Procedure (MPEP) ¶ 2143.03). Applicant respectfully submits that claim 1 requires that the first holes on the internal casing are arranged circumferentially. Applicant also respectfully submits that claim 1 requires an anti-rotational pin located substantially at the front of the support device. Applicant also respectfully submits that claim 1 requires a contact surface at the back side of the support device that supports an axial thrust between the internal casing and the support device instead of the anti-rotation pin. Nothing in Liotta discloses at least these limitations.

As described in the Applicant's previous response, Liotta is directed to a turbine shroud having primary and secondary cooling circuits which accommodate differential gas pressure through the turbine. See Liotta, Abstract. The shroud support 34, which has been interpreted by the Examiner as an internal casing, includes primary distribution hole 38d disposed in flow communication with the primary plenums 38c for channeling the primary air 24a thereto. Although the distribution hole 38d are parallel to the axis of the gas turbine, the distribution holes *are not arranged circumferentially* as illustrated in Figures 2 and 3 of Liotta. Accordingly, nothing in Liotta discloses that the holes 38d are arranged circumferentially, as required by claim 1.

Moreover, the Office action purports that Liotta discloses an unnumbered anti-rotation pin connected to the outer shroud of nozzles 20b located at the front of the support device. See Office action, mailed December 26, 2006, page 5. The Applicant respectfully disagrees with the Office action's characterization of the reference. In particular, nothing in Liotta describes the unnumbered component that is coupled to the nozzle 20b as being an anti-rotational pin, or acting as an anti-rotation pin. In addition, the unnumbered component is not coupled to the panel 32, as illustrated by the gap between the unnumbered component and the panel 32. See Liotta, Figure 2. Accordingly, nothing in Liotta discloses an anti-rotation pin or any component that acts like an anti-rotation pin, as required by claim 1.

In addition, the Office action purports that Liotta discloses a contact surface at the end of 32b supporting an axial thrust between the internal casing 34 and the support device 30. See Office action, mailed December 26, 2006, page 5. The Applicant

respectfully disagrees with the Office action's characterization of the reference. In particular, nothing in Liotta describes the aft hook 32b as having a contact surface that supports any axial thrust between the panel 32 and the shroud support 34. Liotta discloses that "[e]ach segment includes forward and aft hooks which engage corresponding forward and aft hooks of an annular shroud hanger mounted in turn to a surrounding annular shroud support. *The main purpose of the shroud hanger is to support the shroud segments and isolate the shroud support from the hot shroud itself.*" See Liotta, col. 1, lines 38-43 emphasis added. Although the shroud hanger, including forward and aft hooks, is used to connect the shroud to the shroud support and isolate the shroud support from the hot shroud itself, nothing in Liotta discloses that the shroud hanger is used support the axial thrust between the shroud and the shroud support 34. Accordingly, nothing in Liotta discloses a contact surface at the back side of the support device that supports an axial thrust between the internal casing and the support device instead of the anti-rotation pin, as required by claim 1.

For the reasons stated above, Liotta fails to disclose all of the limitations of the claim. Given that the cited references fails to disclose all of the limitations of the claim, Applicant respectfully submits that claim 1 is patentable over the cited references. Accordingly, Applicant requests that the rejection of claim 1 under 35 U.S.C. § 103(a) be withdrawn.

Given that claims 2-4, 8, 9, 11, and 12 depend from independent claim 1, which is patentable over the cited references, Applicant respectfully submits that dependent claims 2-4, 8, 9, 11, and 12 are also patentable over the cited references. Accordingly, Applicant requests that the rejection of claims 2-4, 8, 9, 11, and 12 under 35 U.S.C. § 103(a) be withdrawn.

CONCLUSION


It is respectfully submitted that in view of the amendments and remarks set forth herein, the rejections and objections have been overcome. If the Examiner believes a telephone interview would expedite the prosecution of this application, the Examiner is invited to contact Michael Mallie at (408) 720-8300.

If there are any additional charges, please charge them to Deposit Account No. 02-2666.

Respectfully submitted,

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